



# Control Room Management for Local Gas Distribution Companies

Presented to:  
The Washington State Citizens Committee on Pipeline Safety

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# Objectives

- Overview of Avista's gas distribution system
- Overview of CRM rule and definitions
- Overview of Avista's control room

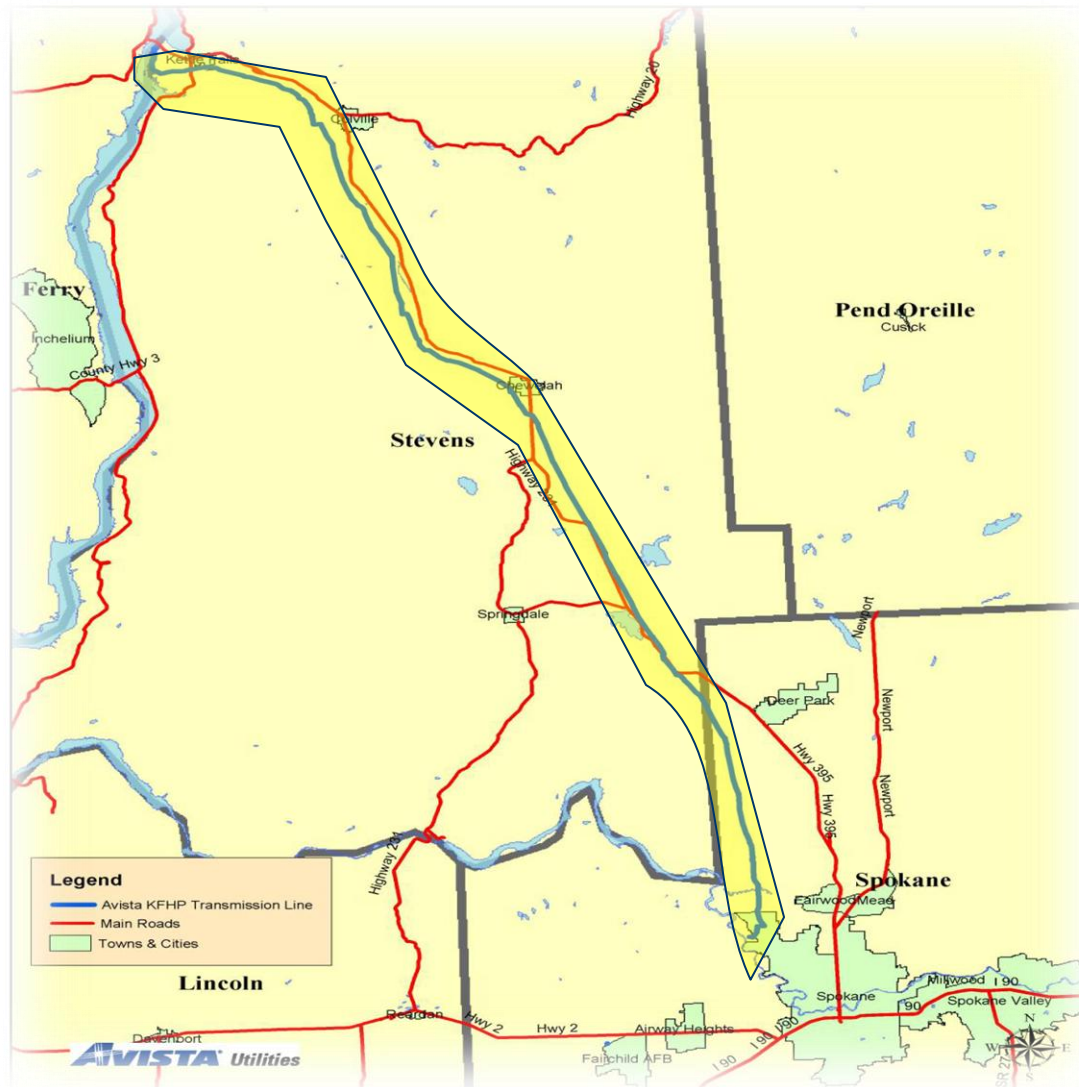
# SERVICE TERRITORY, HEADQUARTERS IN SPOKANE, WASHINGTON

## Avista's Gas Service

- Combined Gas & Electric Distribution Company
- 320,000 gas customers
- 12,500 miles of gas pipeline
  - 8,500 miles PE aged 1968-current
  - 4,000 miles steel, aged 1931-current
- No cast iron
- 112 miles of transmission
  - 73 miles in WA
  - 39 miles in OR
  - 15 miles acquired in 2013 in OR



# Avista Gas Transmission - WA



**Gas Transmission Route** - from northwest Spokane in Spokane County to Kettle Falls in Stevens County

# Control Room Management (CRM) Rule

## Minimum Pipeline Safety Regulations 49CFR 192.631

**PURPOSE:** To address human factors and other aspects of control room management for pipelines where controllers use supervisory control and data acquisition (SCADA) systems.

### 2 Documents comprise Avista's CRM program

- CRM Manual
- Alarm Management Plan



# Control Room Management (CRM) Rule

## Definitions

- **Controller** is a qualified individual who remotely monitors and controls the safety-related operations of a pipeline facility via a SCADA system from a control room and who has operational authority and accountability for the remote operational functions of the pipeline facility.
- **Control Room** is an operations center staffed by personnel charged with the responsibility for remotely monitoring and controlling a pipeline facility.
- **Alarm** is an audible or visible indicator to a Controller that equipment or processes are outside operator-defined safety-related parameters.
- **Alert** is a notification that does not require immediate action and is not safety related.

# Avista CRM Program

## CRM Manual

- Roles and Responsibilities
  - Monitor, recognize, investigate, communicate, initiate, document
- Controller information
  - Point-to-point verification, shift changes
- Fatigue Management
  - <14 hours shifts, 8 hours of sleep, max 63 hour schedule
- Change Management
- Operating Experience
- Training

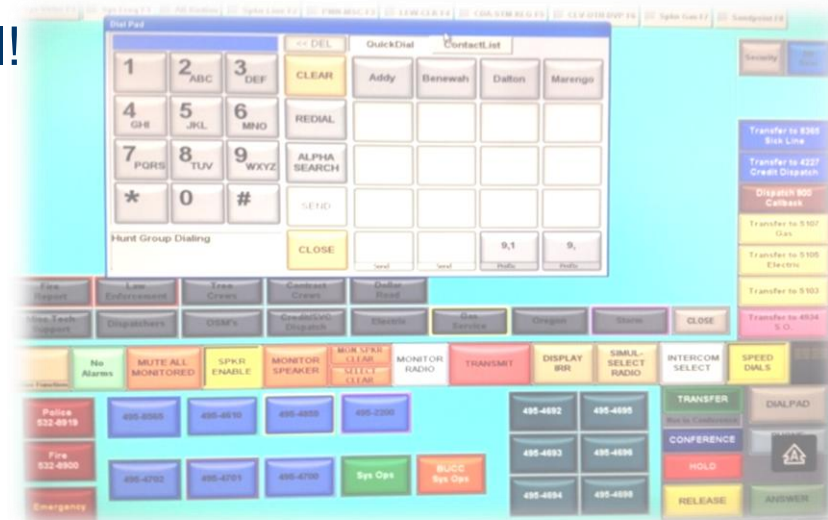




# Avista CRM Program

## Avista Alarm Management Plan

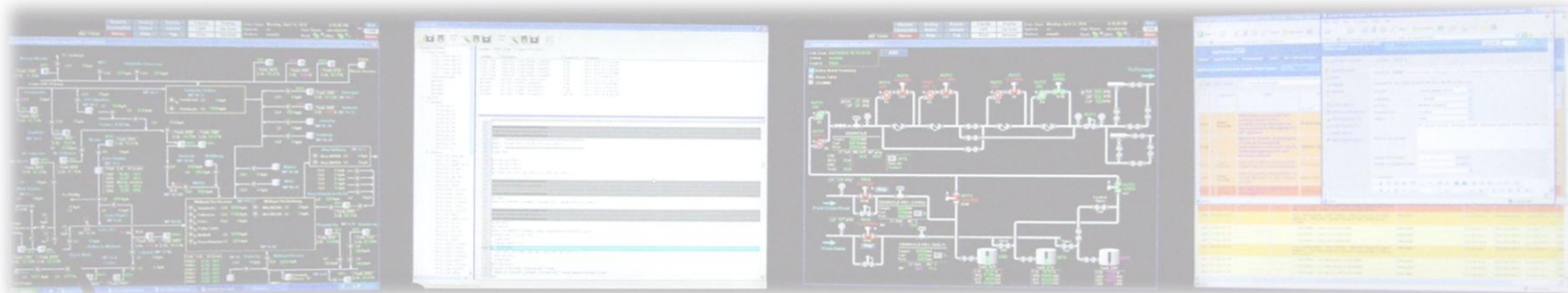
- Alarms vs. alerts
- 801 alarm points at 175 locations
  - Gate stations, large usage customers, regulator stations
  - 104 in WA state
  - Monitor only; No remote control!





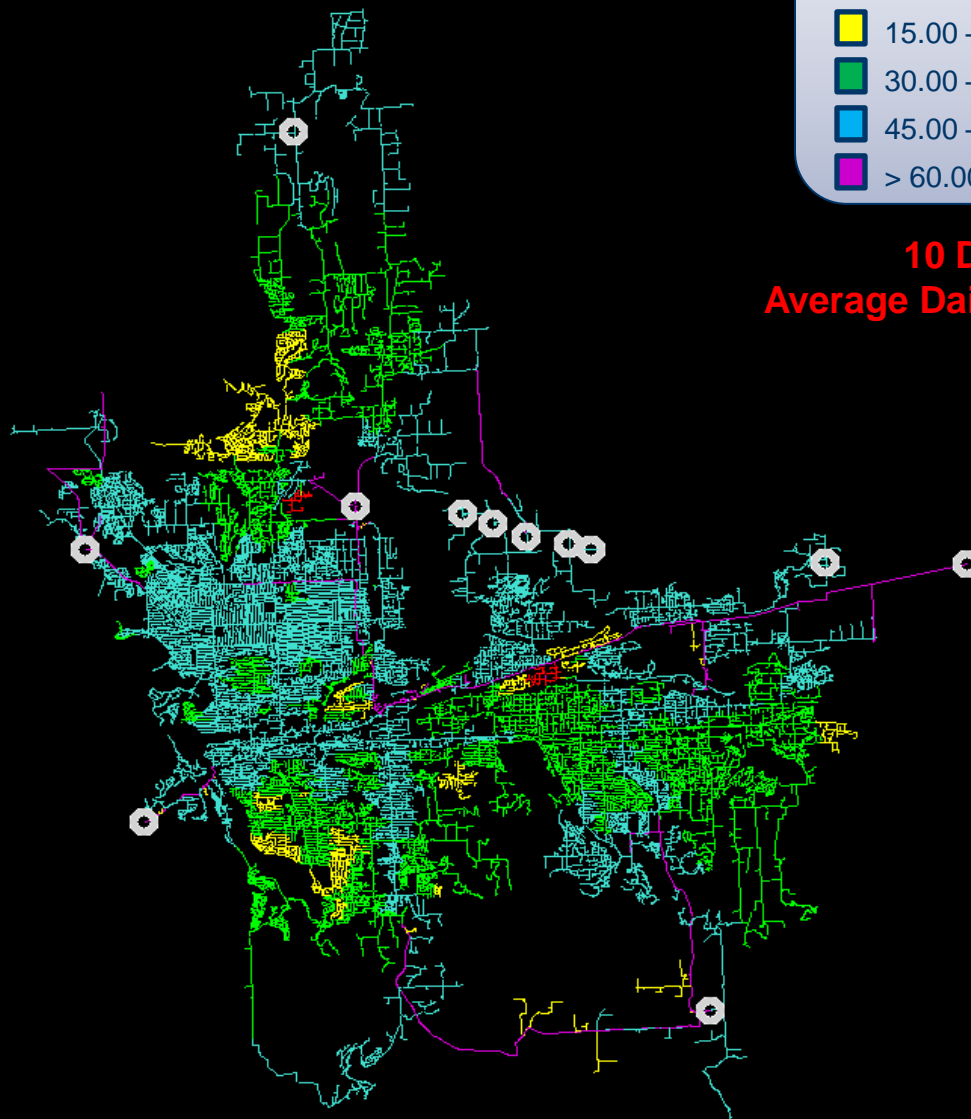
# Avista CRM Program

- Examples of Alarm Types
  - High & Low Pressures
  - High & Low Temperatures
  - Odorizer
  - Loss of Communication
- Examples of Alert Types
  - Battery
  - Tamper Detect
  - High Flow
  - Low Flow
- In addition to evoking emergency response, alarm data also used to validate source data in planning modeling



Facilities Color By:  
Pressure (psig)

**10 Degrees**  
**Average Daily Temperature**



Name Status

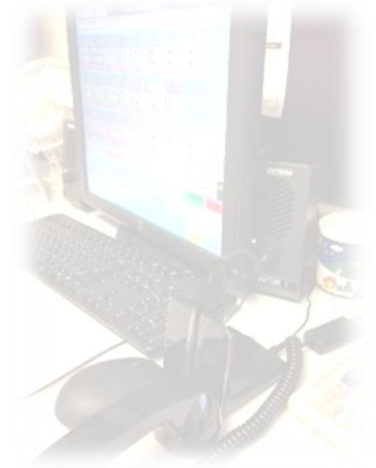
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# 2011 Gas Desk Work Volume

- Nearly 18,000 gas events per year
  - \* 10,420 trouble calls
  - \* 750 alarms
  - \* 770 alerts
  - \* 5,845 electric and gas service calls after hours



- CRM rule in full effect:

Every shift change, alarm response, training, lessons learned on federally reportable events, and more must be documented

# Avista's Control Room

- Combined gas and electric distribution dispatch center
- Dispatchers rotate as Gas Controller
- Gas work volume generally not storm sensitive like electric work volume
- Gas desk does after-hours electric service work
- First audit expected in 2013



# Questions?

